



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,811	10/12/2006	Hiroshi Hoshigami	2005_1961A	5590
513	7590	12/04/2008	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			CLAWSON, STEPHEN J	
2033 K STREET N. W.			ART UNIT	PAPER NUMBER
SUITE 800			4172	
WASHINGTON, DC 20006-1021			MAIL DATE	
			12/04/2008	
			DELIVERY MODE	
			PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,811	<b>Applicant(s)</b> HOSHIGAMI ET AL.
	<b>Examiner</b> STEPHEN CLAWSON	<b>Art Unit</b> 4172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 12 October 2006.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-4 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-4 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 15 December 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-166/08)  
Paper No(s)/Mail Date 12/15/2005

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, & 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Spruyt (U.S. Pat. Pub. No. US 2002/0118658 A1).

Regarding claim 1, Spruyt teaches a communication system in which a plurality of frequency signals are communicated between a first apparatus and a second apparatus via a common cable (**Spruyt para. 33; Spruyt teaches a first apparatus sending data that is multiplexed across a transmission medium which includes cable satellite or radio communication**), wherein:

The first apparatus is comprised of: transmission-sided reference frequency signal level detecting means for detecting a level of a frequency signal which constitutes a reference among the frequency signals which are transmitted via the cable with respect to the second apparatus (**Spruyt para. 6-7; Spruyt discloses a pilot (reference) frequency that is used to reduce interference.**);

The second apparatus is comprised of: reception-sided reference frequency signal level detecting means for detecting a level of a frequency signal which constitutes a reference and is

received from the first apparatus via the cable; and, (**Spruyt para. 6-7; Spruyt discloses a pilot (reference) frequency that is used to reduce interference.;**)

Said communication system is further comprised of: signal level control means for controlling a level of a frequency signal (**Spruyt para. 11; Spruyt teaches that the pilot frequency may be changed by the transmitter or receiver whenever too much interference is detected.**) other than the frequency signal which constitutes the reference and is communicated between the first apparatus and the second apparatus via the cable based upon a compared result between the result detected by said transmission-sided reference frequency signal level detecting means of the first apparatus, and the result detected by said reception-sided reference frequency signal level detecting means of the second apparatus. (**Spruyt para. 11; Spruyt teaches a feedback loop that causes the apparatuses to negotiate a new pilot frequency.**)

Regarding claim 3, Spruyt teaches a communication system, wherein:

Said communication system corresponds to a wireless base station system; (**Spruyt para. 33; Spruyt teaches a first apparatus sending data that is multiplexed across a transmission medium which includes cable satellite or radio communication**)

Said first apparatus corresponds to an indoor unit;

Said second apparatus corresponds to an outdoor unit;

Said frequency signal which constitutes the reference corresponds to a signal of a transmission system; and (**Spruyt claim 1; Spruyt teaches transmission from the first**

**apparatus where the pilot carrier is sent to the second apparatus where the signal is received.)**

A plurality of frequency signals are multiplexed and the multiplexed signal is communicated between the first apparatus and the second apparatus via the cable. (Spruyt para. 33; **Spruyt teaches a first apparatus sending data that is multiplexed across a transmission medium which includes cable satellite or radio communication**)

Regarding claim 4, Spruyt discloses a communication system wherein:

Said communication system corresponds to a wireless base station system; (Spruyt para. 33; **Spruyt teaches a first apparatus sending data that is multiplexed across a transmission medium which includes cable satellite or radio communication**)

Said first apparatus corresponds to an indoor unit;

Said second apparatus corresponds to an outdoor unit;

Said frequency signal which constitutes the reference corresponds to a signal of a transmission system; and (Spruyt claim 1; **Spruyt teaches transmission from the first apparatus where the pilot carrier is sent to the second apparatus where the signal is received.)**

A plurality of frequency signals are multiplexed and the multiplexed signal is communicated between the first apparatus and the second apparatus via the cable. (Spruyt para. 33; **Spruyt teaches a first apparatus sending data that is multiplexed across a transmission medium which includes cable satellite or radio communication**)

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spruyt (U.S. Pat. Pub. No. US 2002/0118658 A1) in view of Hirotsugu (JP Pub No. 2002-100998).

Regarding claim 2, Spruyt teaches a communication system wherein: the pilot signal is sent from one apparatus via a cable to second apparatus. This signal is demodulated which has an averaging affect. Further, Spruyt discloses a feedback loop that causes the apparatuses to negotiate a new pilot frequency when too much interference is detected. (**Spruyt para. 7 & 11**). Spruyt does not disclose a method for adjusting the signals other than the pilot frequency to correct for losses along a transmission path. (**Hirotsugu para. 5-7**) However, Hirotsugu does. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine a communications system that includes a pilot or reference frequency that detects loss and a method for adjusting the frequencies of the modulated data signals. Combining these provides for more reliable and robust communication between locations.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN CLAWSON whose telephone number is (571)270-7498. The examiner can normally be reached on M-F 7:30-5:00 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis West can be reached on 571-272-7859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/STEPHEN CLAWSON/  
Examiner, Art Unit 4172

/Lewis G. West/  
Supervisory Patent Examiner, Art Unit 4172